

Abstract

A sputtering target consists of high purity Nb of which Ta content is 3000ppm or less and oxygen content is 200ppm or less. Dispersion of the Ta content in all the sputtering target is within $\pm 30\%$ as a whole target. Dispersion of the oxygen content is within $\pm 80\%$ as a whole target. According to such sputtering target, an interconnection film of low resistivity can be realized. In addition, each grain of Nb in the sputtering target has a grain diameter in the range of 0.1 to 10 times an average grain diameter and ratios of grain sizes of adjacent grains are in the range of 0.1 to 10. According to such sputtering target, giant dust can be largely suppressed from occurring. The sputtering target is suitable for forming a Nb film as liner material of an Al interconnection.